

The mission of the State Water Resources Control Board and its nine Regional Water Quality Control Boards:

To preserve, enhance, and restore the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

Published in 2010

Cover photo: Burney Falls

Water is a precious resource in California, and maintaining its quality is of utmost importance to safeguard the health of the public and the environment.

The mission of the Central Valley Regional Water Quality Control Board (Regional Board) is to protect water quality by regulating potentially water polluting practices and enforcing state and federal laws and policies.

This is important, because the Central Valley – Region 5 – is the largest and most diverse region in California, stretching from the Oregon border to the northern tip of Los Angeles County – about 60,000 square miles or nearly 40 percent of the state. It includes all or part of 38 of California's 58 counties and nearly 80 percent of the state's irrigated agricultural land.

As the fastest growing region in California, the Central Valley is home to about 6.5 million people. By 2020 the population is anticipated to increase by 39 percent, putting increased demands on water resources.

The Sacramento River and the San Joaquin River, two of the state's major rivers, drain the region. Their watersheds, along with the Tulare Lake Basin, are the three major watersheds in the Region. The most important aspect of California's complicated water picture is the Delta, where the Sacramento and San Joaquin rivers meet. The Delta is within the Regional Board's jurisdiction.

In total, water from the Central Valley provides more than 50 percent of the state's total water supply, provides drinking water for 25 million Californians and irrigation for millions of acres of farms in and out of the valley. Yet,

Key water quality program areas in the Central

- Valley include:

 Agriculture and ag-related industry
 - ➤ Animal feeding operations including dairies
 - Municipal and industrial waste disposal in water and on land
 - > Storm water runoff
 - ➤ Timber harvest operations
 - ➤ Abandoned mines
 - ➤ Pollution cleanup

according to state reports, many of the waterways within the valley are impaired by an assortment of pesticides, metals, salts, pathogens, fertilizers and industrial chemicals.

Structure and Organization

In 1949 the California Legislature enacted the Dickey Water Pollution Act that made sweeping changes in California's approach to water pollution control and water quality. It established the nine Regional Water Boards that represent the major drainage basins throughout the State.

It was not until 1967 that the current structure of the State Water Resources Control Board and the nine Regional Boards was formed. In 1969, the State Legislature enacted the *Porter-Cologne Water Quality Control Act*, the cornerstone of today's water protection efforts in California. The Legislature realized that California's water pollution problems varied from region to region depending on precipitation, topography, and population, as well as recreational, agricultural, and industrial development and therefore independent regional boards were created to address these differences.

The Regional Boards have responsibility for overseeing and enforcing the state's water quality regulatory and planning programs. Nine gubernatorial appointees with expertise in water supply, irrigated agriculture, industry, and municipal and county government in that region, serve on each Regional Water Board.

The State Water Resources Control Board is responsible for setting statewide policies, or adopting permits, regulations or policies that extend beyond the jurisdictional boundaries of two or more regional boards and for water rights. They control the budgetary and administrative/personnel functions for all the Water Boards, provide critical support such as legal counsel, public affairs and other functions. The State Water Resources Control Board also serves as the appellate board that parties may petition if they believe they have been aggrieved due to any action or inaction by a Regional Board.

The Water Boards' structure is unique in that each regional board is semi-autonomous from the State Water Resources Control Board. It is not a traditional headquarter/district office type organizational structure, such as Caltrans. Each Regional Board appoints its own Executive Officer that serves at the will of the Regional Board. The Executive Officer is responsible for hiring and managing staff that implement and enforce the Regional Board regulatory programs.







Water Quality Issues

The Regional Board is in charge of protecting water quality. Pollutants and contaminants pose a constant threat to California's water, so the Board regulates waste that can enter and degrade the water, including treated wastewater, toxic and non-toxic byproducts from business operations, pollutants from runoff, and waste from livestock.

California has two primary water sources:

Surface water in natural waterways (lakes, creeks, streams and rivers) and man-made water collection and delivery systems (storm drains, canals, and larger systems such as the state and federal water projects) deliver water to farms and cities. Groundwater in underground aquifers, many of which are in the Central Valley, is estimated at 850 million acre-feet of water in the state (one acre-foot equals about 326,000 gallons, or enough water to cover an acre of land – about the size of a football field – one foot deep. One acre-foot can meet the annual indoor and outdoor needs of one to two urban households).

The Regional Board has programs to specifically address the water quality of both surface water and groundwater.

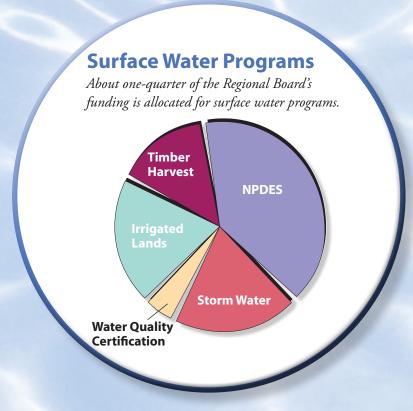
For more information about the Regional Board, go to its website: http://www.waterboards.ca.gov/centralvalley

Surface Water Quality Protection Programs

In a typical year, California receives about 70 million acre-feet of rain and snow, which percolates into the ground or flows into streams, rivers, lakes, wetlands and the ocean. About half of the state's available surface water is collected in more than 1,300 local, state and federal reservoirs and then released and transferred according to flow schedules and need.

Contaminants can be conveyed into surface waters in a variety of ways. When storm water and runoff from irrigation water collects on land and hard surfaces and runs off, it flushes polluted water into waterways. Contaminants can also be discharged from other diffuse sources and from illegal direct discharges. Water quality also is degraded when contaminants directly spill or leak into the waterways.

The Regional Board has established and oversees a number of programs to ensure water quality meets state and federal standards. To that end, the Board issues permits and takes enforcement action when regulations and policies are violated.



National Pollutant Discharge Elimination System (NPDES) Wastewater Program

The NPDES Wastewater Program – a federal program overseen by the state – has responsibility for regulating wastewater discharges to surface waters that are defined as waters of the United States. Primary program activities include issuing NPDES permits that prescribe the volume, type and concentration of wastes that can be discharged; monitoring dischargers to ensure compliance with permit requirements; taking enforcement action as appropriate; investigating spills and illegal discharges and handling petitions and litigation. More than 200 permits (30 percent of the total number of individual permits statewide) have been granted in the Central Valley and more than 77 dischargers are subject to General NPDES Permits.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water



NPDES Storm Water Program

The federal NPDES Stormwater Program that is administered and enforced by the state includes three focus areas:

- Municipal
- > Construction
- > Industrial

Storm water pollution is a serious problem presenting a real threat to the state's waterways, communities and public health and safety. Reducing storm water pollution is a top priority. The construction and industrial storm water programs differ from other regional programs in that these discharges are regulated under General Permits adopted by the State Water Board with Regional Board staff providing oversight and enforcement. Currently, there are nearly 2,000 industrial storm water sites and more than 4,200 construction sites regulated through this program in the Central Valley. Construction sites vary over time depending on the construction activities throughout the region.

The municipal storm water program has two phases: Phase I and Phase II. Phase I municipalities are regulated by individual orders issued by the Regional Board. Phase II municipalities are regulated by a General Order adopted by the State Water Board but is enforced by the Regional Board. Currently there are 93 Phase I and Phase II municipalities in the Central Valley.

The Board continues to designate additional municipalities to be regulated under the municipal storm water permit program.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water



Timber Harvest Program

With 45 percent of the state's harvested timber in the Central Valley, harvesting operations have the potential to impact water quality in higher elevation watersheds, which is the source of much of California's surface water supply. Threats to water quality include erosion/siltation from tree harvesting, road construction and abandonment, waterbody crossings and herbicide applications.

In 2003, the Regional Board adopted a Conditional Waiver for Discharges Related to Timber Harvest Activities. The waiver specifies criteria and conditions that must be met by those engaged in timber harvest activities on private and U.S. Forest Service lands. Regional Board staff is responsible for ensuring waiver compliance by evaluating the application and certification forms and by conducting field inspections.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/timber_harvest

Abandoned Mines

California has a rich history of mining. Unfortunately, mines that now lie abandoned pose a risk for severe water quality degradation. Of chief concern are releases of highly acidic water from mine waste and release of toxic metals, such as copper or mercury, that are either toxic to aquatic life, accumulate to threaten the aquatic food chain or may be in high concentrations that pose a threat to human health via skin contact or inhalation. Other abandoned mines present problems simply because of erosion from untended waste rock piles.

Regional Board staff is presently working on approximately 60 mine sites with 37 of the mines being legacy mines and 22 being more recent mining operations. Twenty-one (21) of the legacy mine sites have some type of order on them, including Cleanup and Abatement Orders, NPDES permits, Cease and Desist Orders and Superfund Sites. Twenty-two (22) active mine sites are regulated by WDRs or storm water permits. Remediation costs for abandoned mines are high, ranging from \$100,000 to \$100 million per mine.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/mining/index.shtml





Sacramento-San Joaquin River Delta

Staff from the State Water Board and the Central Valley and San Francisco Bay Regional Boards formed the Bay-Delta Team to improve coordination of the Water Boards' activities in the San Francisco Bay and Delta. The team is developing a short and long-term program to address impacts to beneficial uses of water in the Delta. To that end, the Bay-Delta Team identified short and long-term actions in a joint resolution. A long-term strategic workplan includes objectives and priorities and describes how those will be coordinated with and informed by other regulatory and planning activities in the Delta. It also includes a time schedule for achieving strategy goals and objectives and references detailed project-specific workplans.

Total Maximum Daily Loads (TMDLS)

The federal Clean Water Act requires states to identify a list of impaired water bodies and a priority ranking for addressing impairments. The focus of a Total Maximum Daily Load (TMDL) is to determine how much of a contaminant can enter a water body without causing an impairment (carrying capacity) or what can be done to restore the impaired water body, and then establish load reduction requirements to ensure that the carrying capacity is not exceeded.

The list of impaired water bodies is scheduled to be updated every two years and submitted to the U.S. Environmental Protection Agency (USEPA) for approval. The Regional Board is responsible for developing and implementing TMDLs or other approaches for addressing impaired waters.

As of 2006 there were 342 listed impairments on 122 water bodies, including virtually all of the mainstream rivers and the Delta and its tributaries in the Central Valley.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/index.shtml



Groundwater Quality Protection Programs

Water pumped from wells in a typical year meets about 30 percent of California's total water needs, while in drought years the state relies on groundwater for as much as 50 percent of the water demands of growing cities and farms.

The quality of groundwater is threatened by a host of contaminants. In urban areas, typical groundwater impairment and pollution comes from leaking underground fuel tanks, industrial waste discharges, commercial facilities (including dry cleaners), failed septic systems, municipal treatment ponds and landfills. Agricultural groundwater impairment and pollution comes from fertilizers, pesticides, animal waste and irrigation leaching. The Central Valley has the highest number of dairies and agricultural lands, as wells as more than 50 percent of all the septic systems in California. The valley also has a high number of wastewater treatment plants. Recent studies have shown significant concentrations of nitrates in surface water and water wells, particularly in the San Joaquin Valley.

As part of its mission to protect water quality, the Regional Board oversees a number of programs to ensure that contaminants and toxics stay out of groundwater. These programs include both permitting and enforcement components.

Waste Discharge Requirements (WDRs)

The majority of all WDRs adopted by the Regional Board are to authorize and control the discharge of waste to land. Land discharges include municipal and industrial treatment and holding ponds, treated wastewater ponds, crop lands, spreading basins and irrigated vegetation. WDRs are issued by the Regional Board under the authority of the California Water Code. WDRs contain limits on the allowable concentrations of constituents in the discharge, prohibitions, provisions and monitoring and reporting requirements. There are more than 890 individual sites regulated by WDRs and an additional 150 sites regulated under General WDRs. There is a significant backlog of

Groundwater Programs About half of the Regional Board's funding is allocated for groundwater programs. Cleanup Title 27 WDR



This site features composting of biosolids from wastewater treatment plants on a constructed surface.

new facilities awaiting WDRs to be issued and many more discharges within the Central Valley that need to be regulated by the Regional Board. The Groundwater Quality Protection Strategy being developed by the Regional Board will identify how the Board will address these issues (see page 15).

Land Disposal (Title 27) Program

The Land Disposal Program is a groundwater protection program that is a regulatory program with stringent requirements defined in Title 23 (for hazardous waste) and Title 27 (for non-hazardous waste) of the California Code of Regulations (CCRs). It regulates liquid and certain solid wastes that are discharged to land for treatment, storage and disposal in landfills and ponds. Facilities that discharge wastes to land that are not required to be regulated under the Title 27 program are regulated under the WDR program.

In general, hazardous and certain nonhazardous wastes cannot be discharged directly to the ground without impacting water quality so they must be contained. Containment is implemented through the adoption of WDRs for disposal facilities that meet the prescribed requirements contained in Title 27. The CCRs specifically define the monitoring and non-compliance response actions that

must be conducted by those regulated under the Title 27 Program. The Regional Board regulates approximately 300 facilities under this program.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_land



An active landfill situated adjacent to a canal in Clovis. The section on the left has been lined while the waste on the far right is being mined to rebuild the disposal unit with a liner.

Groundwater Cleanup Programs

The State Water Board has enforceable policies and procedures to address sites where wastes that are discharged through leaks or spills have impacted or caused groundwater pollution. When a discharge occurs, the parties responsible must clean up soil and groundwater to levels that meet state standards. The Regional Board oversees this process, including making specific findings based on information submitted by the discharger, determining the level of pollutant reduction that is reasonable to achieve and approving a management plan.

Underground Storage Tank (UST) Program

Cleanup of leaking tanks often involves a soil and groundwater investigation and remediation under the direction of a regulatory agency, which may include the Regional Board, County or City Health departments. The various agencies coordinate to ensure that requirements from each agency are met.



The UST Program focuses on preventing, detecting or responding to releases of petroleum and other hazardous substances from tanks, pipelines and connections below ground. There are four program elements: leak prevention, cleanup, enforcement and licensing for tank testers.

The primary role of the Regional Board staff is managing and directing the investigation and remediation of tanks that have leaked – more than 1,000 cases in 2008. In addition the Regional Board had a review role of more than 1,300 cases in 2008 that are under the oversight of local agencies. Altogether the Regional Board was involved in 26 percent of the statewide workload involving USTs.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/underground_storage_tanks

Cleanup Program

Past waste disposal and handling practices, spills and leaks have contributed to polluted sites that could threaten municipal and private water supply wells. The Regional Board staff ensures that investigations proceed and regulations are met. Sites include industrial facilities, dry cleaners, pipeline leaks and spills, mines, above-ground tank farms and pesticide and fertilizer facilities, among others. Among these are 350 facilities, 20 mine sites and 40 other cleanup sites.

Federal Facilities Program

Decades of defense and energy research activities have contaminated soils and degraded water quality on and around federally owned facilities. Many of these facilities are federal Superfund sites and require large, complex investigation and cleanup work over many years, involving cooperation among state and federal agencies.

There are currently 474 Department of Defense (DoD) and Department of Energy (DoE) sites that are under remediation within the Regional Board. Many of the DoD sites are large facilities (McClellan, Mather, Castle, Beale military sites) that have hundreds of sub-sites or areas, including tanks. Regulatory control, oversight and clean up of military sites is occurring through the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process.

In 2008 the former Davis Global Communications Site was an 'early transfer' from the Air Force to Yolo County. This was one of the first early transfers with the Regional Board taking the lead role in obtaining the Governor's concurrence. 'Early transfer' is important because it accelerates property transfer prior to cleanup of all contamination.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/site_cleanup

Agricultural Programs

Dairy Program

The Regional Board regulates several types of confined animal facilities, including dairies, feedlots, poultry facilities and horse facilities. The Dairy Program is a comprehensive regulatory program that implements strict measures to protect water quality by setting prohibitions, requirements and monitoring of liquid and solid animal waste and byproducts that could affect the quality of both surface water and groundwater. California is the largest dairy state with 80 percent of the dairies situated in the Central Valley (about 1,500 milk cow dairies are regulated under WDRs in this program). An extensive outreach and education program has been implemented since the adoption of the WDRs in 2007 and is helping to ensure compliance by educating individual dairy operators on how to develop, implement and maintain documents and plans required by the permit.

Approximately 400 feedlots, poultry and other confined animal operations are also subject to regulation by the Regional Board. The Regional Board intends to regulate these facilities under General WDRs.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/dairies/index.shtml



Irrigated Lands Regulatory Program

About 80 percent of California's irrigated land – farms, nurseries and wetlands – is in the Central Valley. Irrigated lands that have water run off their fields to surface waters, such as rivers and streams, are subject to regulations under the Irrigated Lands Regulatory Program.

A range of pollutants are found in runoff from irrigated lands:

- > Pesticides
- > Fertilizers/Nutrients
- > Salts
- > Pathogens
- > Sediment

At high enough levels, these pollutants can harm aquatic life or make a stream unusable for drinking water or agricultural uses.

The Central Valley Irrigated Lands Regulatory Program (ILRP) is one of the first comprehensive water quality regulatory programs of a major agricultural area in the United States. It currently regulates discharges from irrigated lands to surface waters for over 5 million acres of irrigated agriculture representing approximately 70,000 parcels or more than 25,000 individual growers.

In its sixth year of implementation, the ILRP is a regulatory program that is being successfully implemented in accordance with conditions and requirements established in the Conditional Waiver. The Conditional Waiver was issued under the authority of the California Water Code and contains two key elements. It establishes conditions and requirements that must be implemented or reported by coalitions and it establishes a monitoring program. Implementing the conditions of the waiver will result in management practices being implemented to protect surface water quality. The current Conditional Waiver is set to expire in June 2011.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/index.shtml

Long-Term Irrigated Lands Program



The Irrigated Lands Regulatory Program, initiated in 2003, was considered an interim program to be implemented and enforced while the Regional Board assessed, evaluated and developed a long-term regulatory program. The long-term program alternatives are being fully evaluated through a Programmatic EIR. The current interim regulatory program addresses discharges to surface water only from irrigated lands. The long-term regulatory program is evaluating regulating discharges to protect both surface water and groundwater. The Programmatic EIR and recommended long-term program is expected to be heard by the Regional Board in early 2011 and implemented by Regional Board staff upon expiration of the current waiver program in 2011. As part of this process, a stakeholder advisory workgroup was formed to assist Regional Board staff in developing the long-term strategy.

Stakeholder Policy Groups

Many new and emerging policies being developed by the Regional Board address very complex and controversial water quality issues that are of keen interest to many stakeholders.

To help the Regional Board develop these policies, and to ensure the best strategies and most efficient programs are developed to address water quality in the Central Valley, the Regional Board has formed a number of stakeholder groups. These groups are comprised of members from federal, state, regional and local agencies as well as experts on specific subjects, including citizens and representatives from industry, environmental justice organizations, environmental groups and other interested parties.

The stakeholder groups have a common purpose to help the Regional Board achieve its goals to protect and improve water quality in the Central Valley and also have an keen interest in future regulations:

- Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) will develop a comprehensive regionwide salinity and nitrate management plan to be incorporated in and implemented through the two Basin Plans within the Regional Board.
- Long-Term Irrigation Land Program will develop a long-term plan that will guide the Regional Board on how to regulate discharges from agricultural lands to surface and ground waters.
- Delta Mercury and Methylmercury TMDL Program to develop a control program to address the contamination of mercury and methylmercury, an aquatic toxic agent, in the Delta. The goal of the control program is to ultimately reduce the elevated levels of methylmercury in fish that pose a risk to humans if consumed in high quantities.
- Groundwater Quality Protection Strategy to establish a roadmap to describe how the Regional Board will move forward to protect and regulate groundwater throughout the valley.

Compliance and Enforcement Program

When state and federal laws, regulations, policies and orders are violated, the Regional Board is responsible for taking appropriate enforcement actions, including issuing penalties or mandating corrective actions.

Timely and consistent enforcement of environmental laws is critical to the success of the water quality program and to ensure that the people of the State have clean water. Compliance with regulations is critical to protecting public health and the environment. It is the preference of the Regional Board that the most effective and timely methods be used to assure that the regulated community stays in compliance. The Regional Boards' enforcement actions shall be suitable for each type of violation, providing consistent treatment for violations that are similar in nature and have similar water quality impacts. Where necessary, enforcement actions will ensure a timely return to compliance.

Enforcement actions by the Regional Board must be consistent with the statewide Water Quality Enforcement Policy, which established a progressive enforcement strategies that the Regional Board can implement at any level depending on the nature of non-compliance. These steps include:

- ➤ Official Letter, Notice of Violation or Notice to Comply
- Clean-up and Abatement Order
- Cease and Desist Order
- Formal Referral to Attorney General, District Attorney, USEPA or Task Force
- Monetary Penalty

The Enforcement Policy allows for a portion of certain penalties assessed by the Regional Board to be directed towards water quality improvement projects and educational programs within the watershed in which the violations occurred. These projects are referred to as Supplemental Environmental Projects (SEPs).

The California Water Code statutorily establishes a Minimum Mandatory Penalty (MMP) of \$3,000 per violation for certain types of non-compliances. Violations that meet the definition for an MMP must be assessed by the Regional Board, which has no discretion over the issuance of MMPs.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/enforcement/index.shtml

Basin Planning

California's Porter-Cologne Water Quality Control Act requires each Regional Board to formulate and adopt water quality control plans, or basin plans, for all areas within the region, as well as to establish water quality objectives and develop an implementation program to achieve water quality objectives in the basin plans.

Every three years, a basin plan review is completed that assesses the appropriateness of existing standards and evaluates and prioritizes basin planning issues. Updates have been and will continue to be done through individual programs, such as through TMDLs and the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS).

The Central Valley Regional Board maintains two Basin Plans: the Tulare Lake Basin and the Sacramento River and San Joaquin River Basins. The challenge is securing funding to update and maintain the Basin Plans to ensure they adequately address the water quality conditions, policies, laws and programs being implemented throughout the Central Valley by the Regional Board.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans

Other Regional Board Programs



Surface Water Ambient Monitoring Program (SWAMP)

SWAMP is a program implemented regionwide that includes collecting information about the physical, chemical and biological characteristics of the environment and provides an overall assessment of water quality throughout the region.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_studies/surface_water_ambient_monitoring/index.shtml

Water Quality Certification Program (401 Certification)

This program regulates dredge and fill activity that results in any discharge to waters of the U.S. or the loss of wetlands.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification

The Grant Program

This program funds projects to protect water quality from non-point discharges. The State Water Board is responsible for the administration of the Grant Program and distribution of funds for the State. Regional Board staff assist in project selection, provide oversight to the grantees and their projects and manage the grant contracts.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/grants

Sanitary Sewer Overflows (SSOs)

A chronic and growing problem in municipalities is with their domestic sewage collection systems: sanitary sewer overflows (SSOs). These overflows can result in raw or diluted sewage overflowing onto streets and surrounding surface areas and possibly flowing into our surface water bodies. This can pose a great risk to the quality of the surface waters and to public health. SSOs are caused mainly by rainfall-induced infiltration and inflow, blockages and flow restrictions in the collection system.

Ensuring the capacity and structural integrity of a sanitary system so that no overflows occur is the problem being addressed by the SSO program. Identification of the cause of SSOs, maintenance and repairs and replacements of sewer systems are expensive. About half the sewers in a typical municipality are located on private property and therefore collection line maintenance is the responsibility of private property owners. SSOs are regulated through Statewide WDRs for Sanitary Sewer Systems. Public agencies that own or operate sanitary sewer systems must develop and implement management plans, report all overflows to an online database, and take corrective action.

For more information: http://www.waterboards.ca.gov/water_issues/programs/sso

Emerging Priorities and New Programs

Salts and Nitrates

One of the most productive agricultural regions in the world, the Central Valley is also the fastest growing residential area in the state. Salts and nitrates in the water supply are a problem and left untreated, impair surface and groundwater used for drinking, farming, industry, the environment and recreation.

Water imported from the Sacramento-San Joaquin Delta brings 250 tons of salt a day into the valley via the state and federal water project canals. With limited or no outlet to the ocean, more salt is being imported into the San Joaquin Valley than is being exported; estimates are that approximately 2-million tons of salt accumulate in the San Joaquin Valley every year. Salts endanger the economic vitality of the Central Valley and limit business and residential growth. It also increases the costs of urban drinking water and wastewater treatment. And it significantly limits water resource management options, especially during droughts.

Excessive nitrates are a significant issue for public health and safety and can render a drinking water supply unusable. Many communities in the Central Valley have nitrate levels that exceed the maximum contamination level that defines when drinking water is safe.

The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) Initiative is a comprehensive effort to develop a comprehensive salinity and nitrates



management plan to be implemented throughout the entire Central Valley. The plan will result in protection, restoration and enhancement of water quality impacted by salts and nitrates.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/salinity/index.shtml

Groundwater Strategy

The Central Valley has the second largest contiguous groundwater basin in the United States and the largest groundwater basin in California. Future population growth expected in the Central Valley will place further demands on water supply and quality. Groundwater is the Central Valley's largest source and storage for water supply and its growing importance in meeting a community's water supply portfolio has placed an increased importance on groundwater quality protection and restoration.

Legacy and current practices by man have impacted and polluted groundwater throughout the Central Valley. Recent public reports indicate groundwater drinking water supplies for communities in the San Joaquin Valley have been degraded or polluted. This has elevated the need for a Groundwater Quality Protection Strategy that will provide a roadmap on where we are and where our current and emerging programs will move into the future to address groundwater within the Central Valley, including how the Regional Board will coordinate efforts with other agencies that have regulatory authority over groundwater. The Strategy will provide:

- Summary of the current condition and state of groundwater quality throughout the Valley,
- Summary of the current groundwater regulatory programs being implemented by the Regional Board and other agencies, and
- ➤ Roadmap for future regulatory and control activities that will be implemented by the Regional Board to assure a comprehensive, consistent, and coordinated groundwater protection program is being implemented throughout the Central Valley Region.

Sacramento-San Joaquin River Delta Strategy

The Sacramento-San Joaquin Delta is the focus of the most pressing water issues in the state and it is one of the highest priority water quality programs for the Regional Board.

About 80 percent of commercial fish pass through the Delta. Yet the ecosystem cannot support fish on the federal endangered species list, such as Delta smelt or Chinook salmon. Crumbling levees put farmland and growing urban areas at risk of floods. Drought and restricted water allocations have meant water supplies have dwindled for agriculture, the environment and drinking water.

While the State Water Board focuses on water rights in the Delta, the Regional Board's charge is to protect water quality. To improve coordination of the state's activities in the San Francisco Bay and Delta, the State Water Board and the Central Valley and San Francisco Bay Regional Boards formed the Bay-Delta Team. The team has developed and implemented a short- and long-term program to address impacts to beneficial uses of water in the Delta. This includes programs focusing on southern Delta salinity, Suisun Marsh management and restoration, as well as a review of the Bay-Delta Plan and water rights.

For more information: http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/index.shtml



Why We Care – Freshwater is Precious

Where is the Water on Earth Located?

About 97 percent is salt water in seas and oceans. The remaining 3 percent is freshwater located in rivers, streams, lakes and in the ground.

The Earth's Water

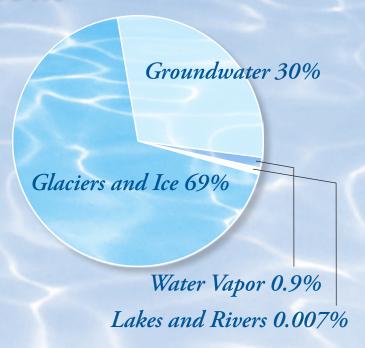
Most of the Earth's water- 99 percent - is unavailable for our use. It is in seas and oceans, in the atmosphere, out of reach in glaciers and ice or too deep to access within the





Tapping Freshwater

Of the Earth's total freshwater, 68.7 percent is in ice and glaciers, another 30.1 percent is groundwater, 0.9% is water vapor in the atmosphere and 0.007 percent is surface water. Yet surface water is our daily primary source.



Freshwater

To capture the limited supply of freshwater for our use, we tap both groundwater and surface water.

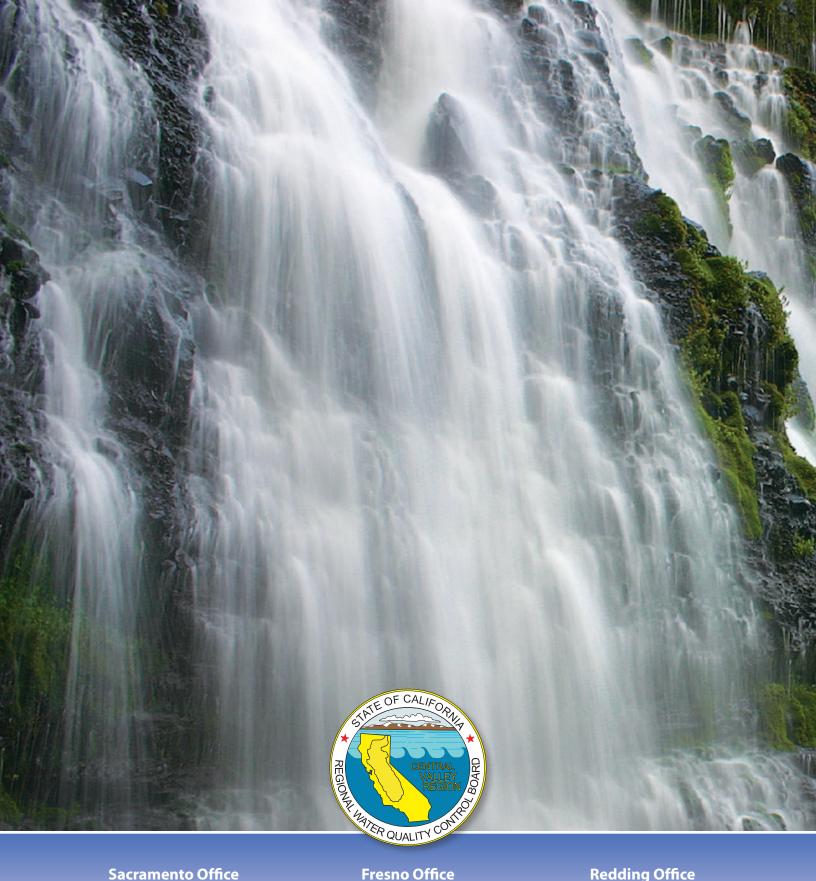
➤ Groundwater:

Much of the Earth's groundwater is too deep or of poor quality so we cannot use it. In California, we pump 14 million acre-feet of groundwater a year. Yet we use 1.5 million acre-feet a year more groundwater than goes back into the ground.

➤ Surface Water:

We've built dams and reservoirs to capture surface water and store it for later use. In California, about 71 million acre-feet of water runs off mountains in the form of rain and snowmelt. Reservoirs throughout the state store about 42 million acre-feet a year.

With such limited supplies of freshwater available for daily use, we need to do all we can to preserve, protect, enhance and restore its quality. Present and future generations depend on it.



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